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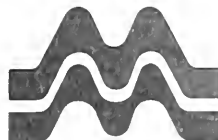
Prepared for:

The Decker Area Mines Comprehensive Social Sciences Study
Montana Department of State Lands
U.S. Office of Surface Mining and Reclamation

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GENERIC MITIGATION PROGRAM

Prepared for:

The Decker Area Mines Comprehensive Social Sciences Study
Montana Department of State Lands
U.S. Office of Surface Mining and Reclamation

Prepared by:

Briscoe, Mapnis, Murray, and Lamont, Inc.
Mountain West Research-North, Inc.

May 1983

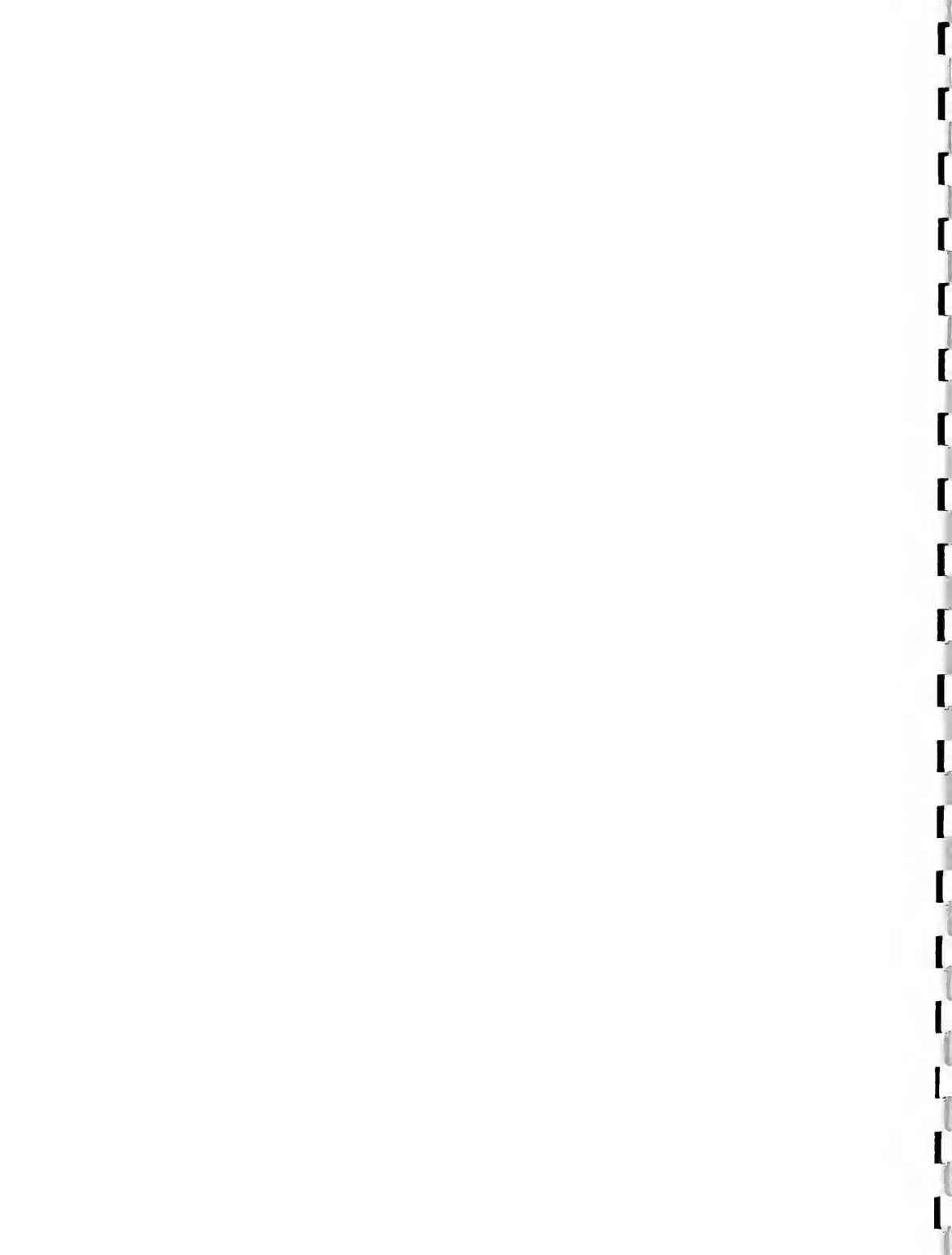
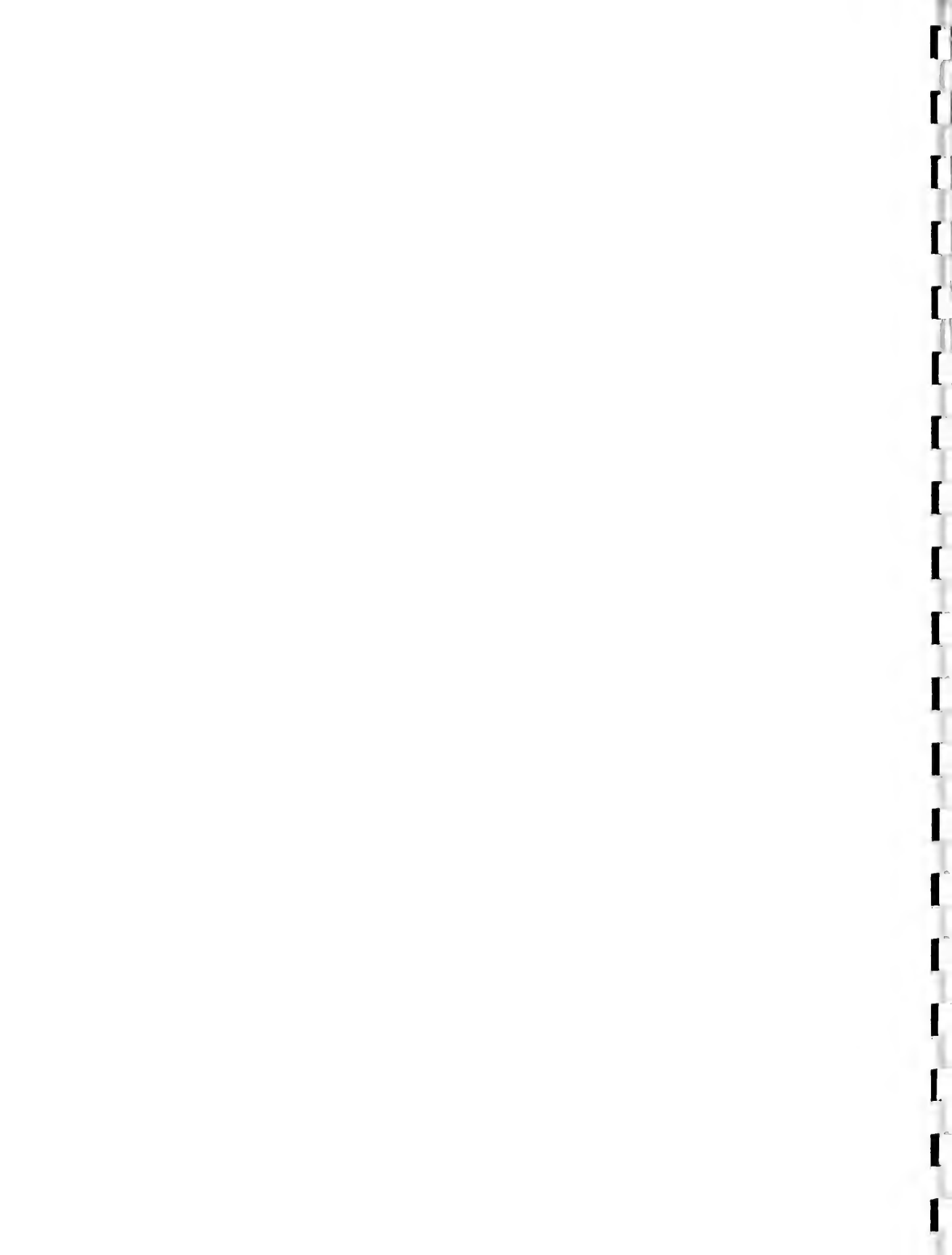


TABLE OF CONTENT

	<u>3</u>
1. Summary	1
2. Mitigation Concept.	2
3. Mitigation Guidelines	4
4. Alternative Measures.	6
Bibliography.	13



.. SUMMARY

This paper presents a conceptual approach to the development of a mitigation management process for the proposed Decker area mines. The mitigation concept is outlined in Section 2 and examples of management structures that have worked in other interstate environments are offered, including the Overthrust Industrial Association and the Colorado Joint Review process. The central point of this discussion is that no comprehensive program can be established unless and until a participatory mitigation management process involving the affected parties is created. The approach proposed does not address mitigation issues on the Crow Reservation. These have been treated in the American Indian Technical Service Report (AITS, 1983).

Guidelines to be used in developing a specific mitigation program are discussed in Section 3. Seven guidelines are proposed covering the following areas:

1. Local governments' responsibility for the provision of public facilities and services
2. Distribution of the burden for capital and operating costs of new infrastructure due to growth
3. Hiring of local residents
4. Residential location of in-migrating mining company employees
5. Meeting the need for front-end financing
6. Establishment of a monitoring program
7. Geographic focus of the mitigation program

Specific alternative mitigation measures to be considered for the Decker area mines mitigation program are presented in Section 4. These measures have been drawn from successful programs in other parts of the west. The advantages and disadvantages of each are discussed.



2. MITIGATION CONCEPT

In no instance is the projected growth that would be caused by the proposed Decker area mines beyond the capabilities of the local governments to cope in a positive manner. In the case of the Montana state and local governments, there would be virtually no growth impact and very positive revenue potential (state and county level). In Sheridan and Sheridan County, there would be significant impact only under the Consol 1 and 2 and the cumulative scenarios.

Given the multiple projects and governmental jurisdictions affected, and the interstate nature of the impact, a new management process would appear appropriate to coordinate and help orchestrate the accommodation of the growth. Communication of issues and concerns in an open setting may be the greatest need and benefit from such a process. The impacts would not be severe in any of the jurisdictions considering the population numbers and the length of time over which the growth is projected to occur, but cooperative effort will be the key to dealing successfully with those problems that do arise.

The tools presently available to Montana and Wyoming do not lend themselves to answering the concerns of a neighboring state. Wyoming's Industrial Siting Act is not applicable due to the location of the mines in Montana. At the same time, the Montana EIS requirements and Coal Board legislation do not seem to "lend lease" aid to communities in Wyoming and thus are of questionable value in dealing with the tax/jurisdictional mismatch issue.

Therefore, alternatives need to be considered. One alternative is an organization similar to the successful Overthrust Industrial Association (OIA) in southwestern Wyoming. It is an entirely volunteer association of oil, gas, and ancillary service companies that was established to enable an orderly identification of the growth-related problems of the oil and gas development in three states and six counties. It is operating in a directly parallel but even more complex situation to the Decker study area. There are many more companies (144 at last count), three states, six counties, and ten or twelve towns involved in the OIA area. The basis for the OIA was the lead energy companies' recognition of the need to coordinate their efforts of technical assistance, funoing for local projects, and political support to the local communities when dealing with the state and federal governments. Technical assistance provided by the OIA has created or enhanced the local governments' capabilities in such areas as budgeting, grant application preparation, comprehensive planning, housing analysis studies, review of community development projects, and system planning guidelines. The building of local government management capacity is probably the most critical need that the OIA has met. The program has worked toward enabling local governments to manage growth on their own terms in a positive manner. For a program of this nature to succeed, however, the local climate has to be receptive to and interested in this type of support. Such may not be the case in the Decker study area. Additionally, the companies in the Decker area may not be interested in creating such a formal organization. However, the OIA has demonstrated that with the right staff support, financial commitment, and local receptiveness, it can be very effective in a multi-state impact situation.

A second alternative which may be more likely to be acceptable to all parties in the Decker area would be to create a body and program similar to that established through the Colorado Joint Review Process (CJRP). The resultant organization has no powers. It basically provides a public forum for the various levels of government (federal, state, local), the proponent, and the general public to exchange information and concerns, review projects and their possible effects, discuss mitigation actions, assign roles, monitor what is occurring and, in general, avoid duplication of requests to companies for information or studies, while assuring a coordinated response to the cumulative picture of growth. A comprehensive and timely response to accommodate growth as opposed to a fragmented one-on-one approach is thus institutionalized. Again, like the OIA, there is a successful track record for the CJRP as a proven process to



deal with a situation such as the Hecker Area Mine developments. For example, the Lake project is dealing with developing a mitigation program for Western Fuels Association's proposed coal-fueled and power plant in western Colorado (the Moai Lake project). This project required impact mitigation measures in both Colorado and Utah.

The need for a cooperative effort is obvious. It everyone is to avoid unwarranted expense and frustration, especially when it is recognized there are communities in two states, a number of companies, and uncertainty as to the timing and magnitude of the projects. The existing Shenandoah Area Industrial Coordinating Committee serves a portion of the CCRP and CIA type groups, but is clearly much closer to the CIA concept. It might be a good starting point for the creation of an CIA type effort or it may be preferable to maintain the committee's current role. It is and will continue to be a good liaison organization between industry and local government, and has potential to carry out the necessary monitoring function if a CCRP-type organization is not created.



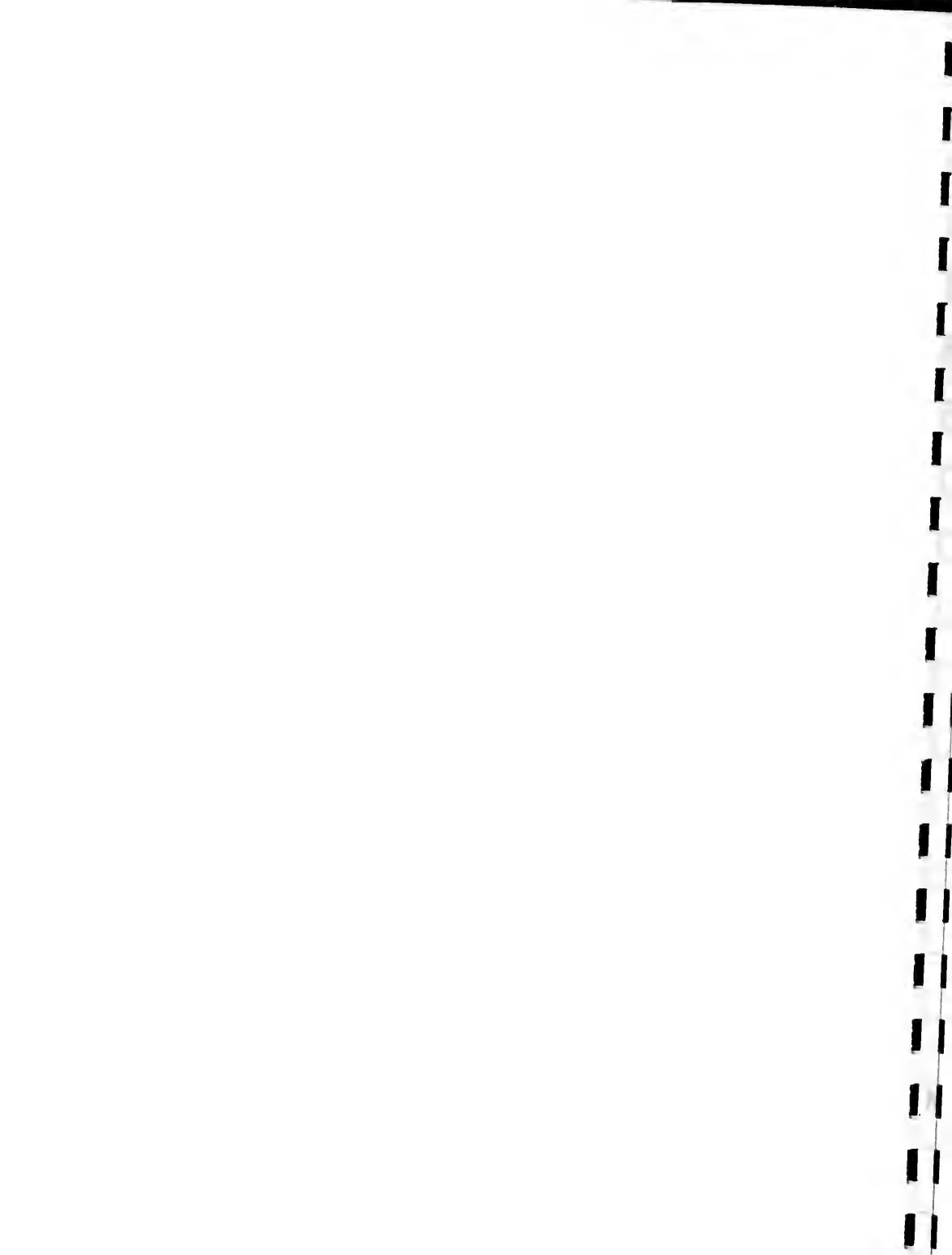
3. MITIGATION GUIDELINES

Keeping the desirability of an overall participatory management process in mind, there are seven general guidelines for the development of a specific mitigation program. These guidelines should be applied through a cooperative process (e.g., OIA or CJRP style) in which the affected parties reach agreement on (1) the type, magnitude, and intensity of impacts to be mitigated, (2) the necessary mitigation measures, (3) the responsibility(s) for implementing the measures, and (4) the procedures by which the implementation of the mitigation program is to be monitored and adjusted, as necessary. The general principles recommended are:

- 1) Local governments have the primary responsibility to provide public services and facilities for existing and new residents. It is appropriate for the mine developers to work with and in support of local governments, rather than attempting to provide such services or facilities themselves. An exception may be the provision of facilities for the single status construction worker.
- 2) Growth should pay its own way. New residents, through their purchase of housing, should pay for the public facilities necessary to service the dwellings. Streets, drainage, water and sewer, and parks are the principal areas where new residents should cover their own costs in purchasing homes or paying water and sewer systems hook-up fees.
- 3) Emphasis should be given to the hiring of local residents in Sheridan County and in Montana. Special efforts should be made to hire from the Crow and Northern Cheyenne populations. This will require not only a well conceived strategy to achieve the initial employment of tribal members, but also an ongoing effort to assure that the work atmosphere is positive. Employment of tribal members is a goal that should be continually pursued. In general terms, it should be recognized that every local resident employed represents at least one less in-migrant to be housed and provided with public facilities/services.
- 4) The mining companies should encourage their in-migrating employees to locate in communities which have the public system's capacity to accommodate additional growth and which are taking active measures to keep their systems from becoming overburdened.
- 5) Front-end financing is usually a problem in meeting a significant influx of people in a relatively short time span. Recognizing this, the companies should work with local governments to assure that adequate financing is available when needed. This includes obtaining funds from third-party sources through grants or loans, guaranteeing loans or debt financing, and pre-paying for water or sewer taps.
- 6) A monitoring program in which companies are required to furnish employment estimates and schedules on a regular basis can provide essential information to communities. The companies should also provide information to new employees concerning the availability of housing and public facilities and services. Coordination of these information flows could be handled through the existing Industrial Coordinating Committee or a new organization as suggested under Section 2. Monitoring of the activity by the companies and local governments is essential to keep the mitigation actions in tune with what actually occurs. A successful mitigation program must be dynamic. Coordination of efforts between the participants, exchange of data, and support for local government efforts to manage the growth is needed. Toward this end, the companies should work through the Industrial Coordinating Committee to keep local governments informed of proposed activity, to seek or provide technical assistance to the local governments to help them obtain funds, to plan for expansion or operation of facilities, and to help inform citizens of what the needs are and what is happening.



ulation effects would occur in Wyoming, every effort must be made to assure that growth pays its own way. This will require that local governments in Sheridan County conduct a major reevaluation of their development policies and requirements. Where the new people live in the county will have a significant effect on existing residents. The capacity to accommodate growth with existing facilities is much greater and less costly to everyone inside municipal boundaries. Development scattered throughout the unincorporated areas is consequently undesirable from this perspective. The nature and geographic focus of the mitigation program should be heavily influenced by these factors.



4. ALTERNATIVE MITIGATION MEASURES

4.1 Introduction

This section presents specific measures that should be considered for inclusion in a mitigation program such as that which would ideally be developed for the Decker area mines. The list of alternative measures has been drawn from the consultants' experience with similar projects, as well as from other rapid growth management situations as reported by Metz (1980, 1982) and Murdock and Leistritz (1979), among others. The measures included have been culled from a broader set of alternatives, based upon their appropriateness to the types of impacts that would be expected in the Decker area mines case. While the measures discussed represent a diverse group of action alternatives, the list is not exhaustive. In any given case, a certain amount of customization would be required and sometimes an entirely new approach to an old problem will prove to be the most effective.

The alternative mitigation measures presented are categorized by population distribution, housing, public facilities and services, education, health and recreation.

4.2 Population Distribution

The distribution of in-migrating workers and their dependents has important consequences for the magnitude, location and duration of all population growth-related impacts. One problem: temporary, construction phase workers represent a transient demand, a major portion of which may be accommodated at a construction camp. Permanent or operational workers represent a long-term effect of quite different dimensions.

4.2.1 Temporary Workers -- Construction Camps

If it conforms with previous patterns, the majority of the construction work force would be heavily single status workers who could be accommodated primarily at a construction camp in Montana, at or near the site of the mines. The development of the Spring Creek Mine involved the use of such a camp. It is typically the mining companies' responsibility to develop and operate the camps -- most frequently through a contractor. Experience has shown that occupancy of a single camp by employees from different projects requires special cooperation of the companies and, in fact, may not be achievable or desirable in this particular case. Nevertheless, development of a joint facility would offer economies to all of the mine developers, while permitting greater initial investment and more amenities for the workers.

Advantages: A construction camp limits the temporary demands on public facilities and services due to the development project. Because of the financial advantages offered to resident workers, construction camps can also reduce the number of temporary employees accompanied by dependents. By locating such a camp in Montana, construction worker-related impacts in Wyoming would be reduced. Additional unskilled local employment opportunities are created.

Disadvantages: A camp reduces the economic benefits of construction worker spending for basic items such as housing and food. A camp limits interaction between workers and local communities. A camp in the Decker mine area would probably preclude later use of the facilities by local communities.



4.2.2 Permanent workers

For the permanent or operational workforce, every effort should be made to mine locally, particularly in Montana. This means a special effort, both initially and over the life of the mines, to employ and keep employed residents of the Crow and Northern Cheyenne nations. The property and severance taxes from the mines will flow to Montana; therefore, the more employees located in Montana, the greater the correlation between the impact and the funds to cope with the impact. Hiring of local residents, whether in Montana or Wyoming, would reduce the need to expand services to accommodate new population growth. Furthermore, those in-migrating employees who are needed for the long-term, or those with families, should be encouraged to locate in the city of Sheridan where the greatest capacity to accommodate growth and the strongest revenue structure exist.

Advantages: Economic boost to local economy and disadvantaged populations. Reduction of in-migration with lowering of needs for expanded public facilities and services in Wyoming communities. Focus of growth in Wyoming on city (Sheridan) where it can be most easily accommodated.

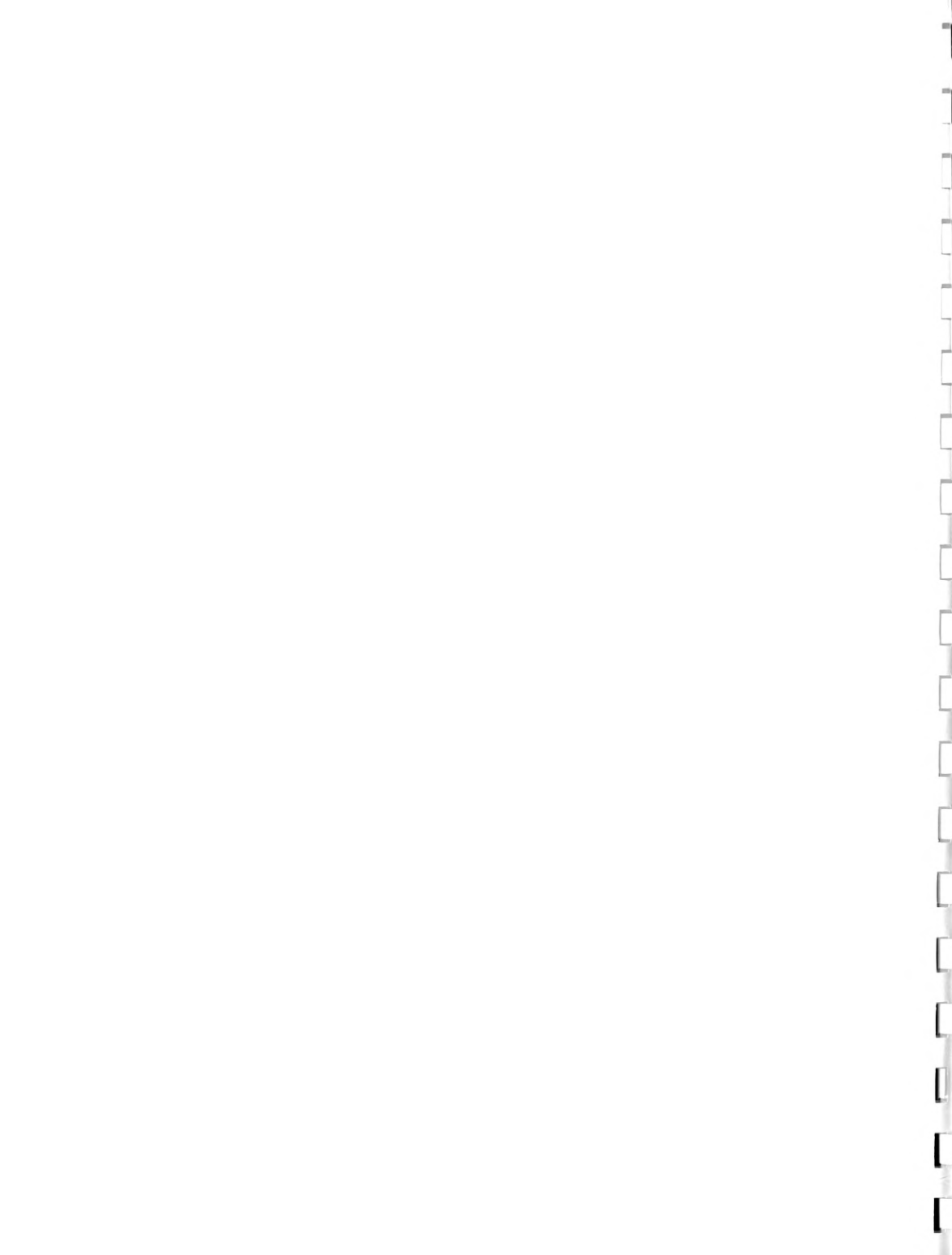
Disadvantages: Training of local work force for long-term mine employment is a major challenge.

4.3 Housing

A camp for single status workers has been suggested at or near the mines, preferably in one camp, if the problems can be worked out. It is also suggested that the married workers and the long-term single status workers moving into the area be encouraged to locate in Sheridan. To achieve these goals, the mining companies should consider the provision of incentives to assist employees in buying homes and to direct their interest to Sheridan. However, it must be recognized that financial incentives for housing are not particularly desirable from the companies' standpoint. The optimum approach would be to provide information on the number of units needed, when they are needed, the employees' salaries, and likely family characteristics, and then let the housing market freely respond to any increased demands. However, recognizing the difficulties that the housing industry has experienced in recent years, particularly in rural areas, many resource development companies have had to provide housing assistance to assure an available work force when they need it. A variety of housing assistance techniques have been used; no one solution has been adequate. The specific actions appropriate in the Sheridan area (if any) would depend on the situation at the time the companies propose to move forward. Examples of what companies have done to stimulate the creation of housing units are to:

- 1) Provide guarantees to purchase and/or rent units built by a subdivider, mobile home park developer, or multifamily unit builder;
- 2) Provide construction financing funds on a roll-over loan basis;
- 3) Deposit capital in local banks or help banks develop financial relationships outside the community to provide ample mortgage and home improvement funds;
- 4) Provide land or improved lots to builders;
- 5) Extend utility lines or roads to open land for developers; and
- 6) Provide technical assistance to local developers to help them in financing, site planning, or building; design.

In addition to the physical provision of housing, there is also the problem of bringing costs down to a level where employees can afford it. Various techniques have been used by companies in the resource



development industry to accomplish this. Again, circumstances at the time the development takes place will determine whether any action is necessary, and if so, which ones are most appropriate. For example, companies may:

- 1) Buy down interest rates for a few years or until the rates decline to a given level;
- 2) Underwrite employee mortgages for a period of time;
- 3) Set a ceiling on the cost of units where assistance or guarantees are being made to developers;
- 4) Pay for certain aspects of the improvements, such as water or sewer lines, streets, or land, and not pass the cost through to the housing unit; and
- 5) Encourage a large volume builder to enter the local market.

4.4 Public Facilities and Services

4.4.1 General Measures: Capital Improvement Programs and Front-End Financing

The critical need in the provision of public facilities and services is to execute the planning for expansion in ample time to get the facilities and services in place when needed, and to be able to obtain the funding necessary to build and operate them. A capital improvement program (CIP) can provide an excellent vehicle to achieve planning and funding coordination as part of the local government's budgetary process. Technical assistance to the communities and the counties, if desired, can facilitate the creation of a meaningful CIP and allow the communities to stay ahead of their needs. The county and city of Sheridan presently approach a CIP effort as part of their sales tax election every two years. Such a program could be expanded to include all revenues and all capital improvements and to schedule them over a five-year period. Technical assistance to assist in the planning for facilities and services as well as in identifying means to finance them is an action that can be used to supplement local government staff efforts.

Lead time financing for public facilities is a primary problem in a rapid growth situation once the planning for the projects is completed. This can often be overcome through company guarantees that allow public debt financing, advance purchase of plant investment fees, direct loans, or assistance in seeking grants or loans from state and federal agencies. Wyoming and Montana both have excellent state-funded programs to assist energy impacted communities.

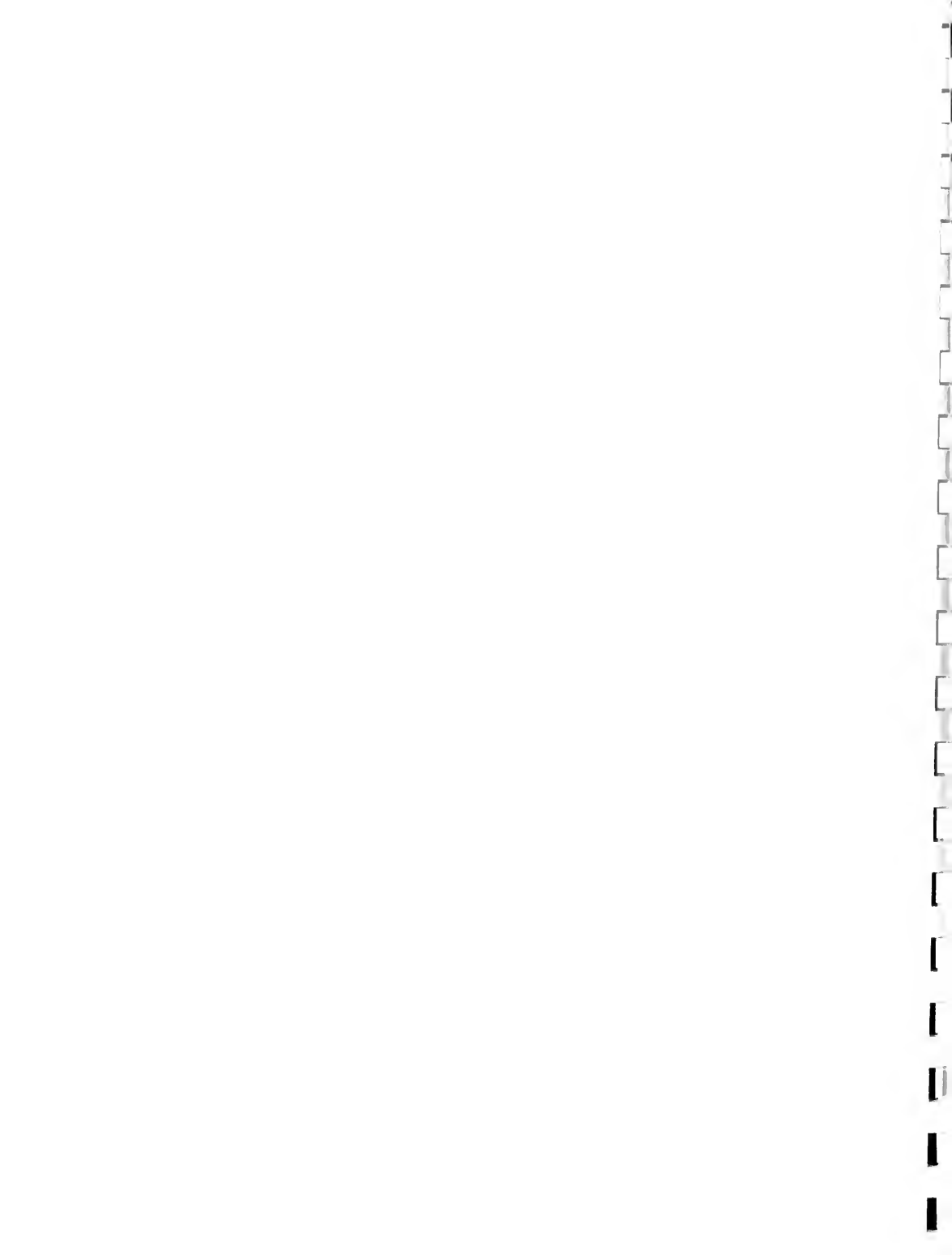
4.4.2 Specific Measures

For jurisdictions throughout the Decker project study area, but particularly in and around Sheridan, specific mitigation measures may have to be considered to meet requirements for expanded public facilities and services. These measures can be grouped into four general categories: (1) financial and material assistance, (2) technical assistance, (3) training and recruitment, and (4) information.

4.4.2.1 Financial and Material Assistance

The types of appropriate actions under this category are those which the mining company(s) would take and include:

- 1) Provision of financial assistance in the form of grants, loans, or donations;



- 2) Provision of capital facilities and/or equipment for permanent use;
- 3) Provision of capital facilities and/or equipment for temporary use; and
- 4) Purchase of lands for the development of capital facilities and equipment.

Some examples of these actions are listed below.

- 1) Donate the use of heavy equipment or material for facility construction.
Advantages: Local government funds and equipment will be freed up for other uses.
Disadvantages: Could establish a cumbersome precedent and make governments dependent upon the energy companies rather than solving their own problems. Could delay company construction projects.
- 2) Purchase needed equipment for local jurisdiction. The rapid growth will generate a demand for additional equipment in various governmental offices. Energy company contributions are one way to meet those needs.
Advantages: Immediate needs can be met in a timely manner. Public relations would be positive. A one-time mitigation effort.
Disadvantages: The list of requests could become long. Local entities might become dependent upon energy companies rather than developing other resources. The cost could be high.
- 3) Donate needed facilities. This refers to the provision of capital facilities at all levels of government.
Advantages: Ensures the timely provision of needed facilities and thereby helps avoid problems for old and new residents. Public relations effects would be positive.
Disadvantages: Discourages the hard search for other financial resources to meet project needs. The sponsoring companies could be paying for items which later project-related tax dollars could cover.

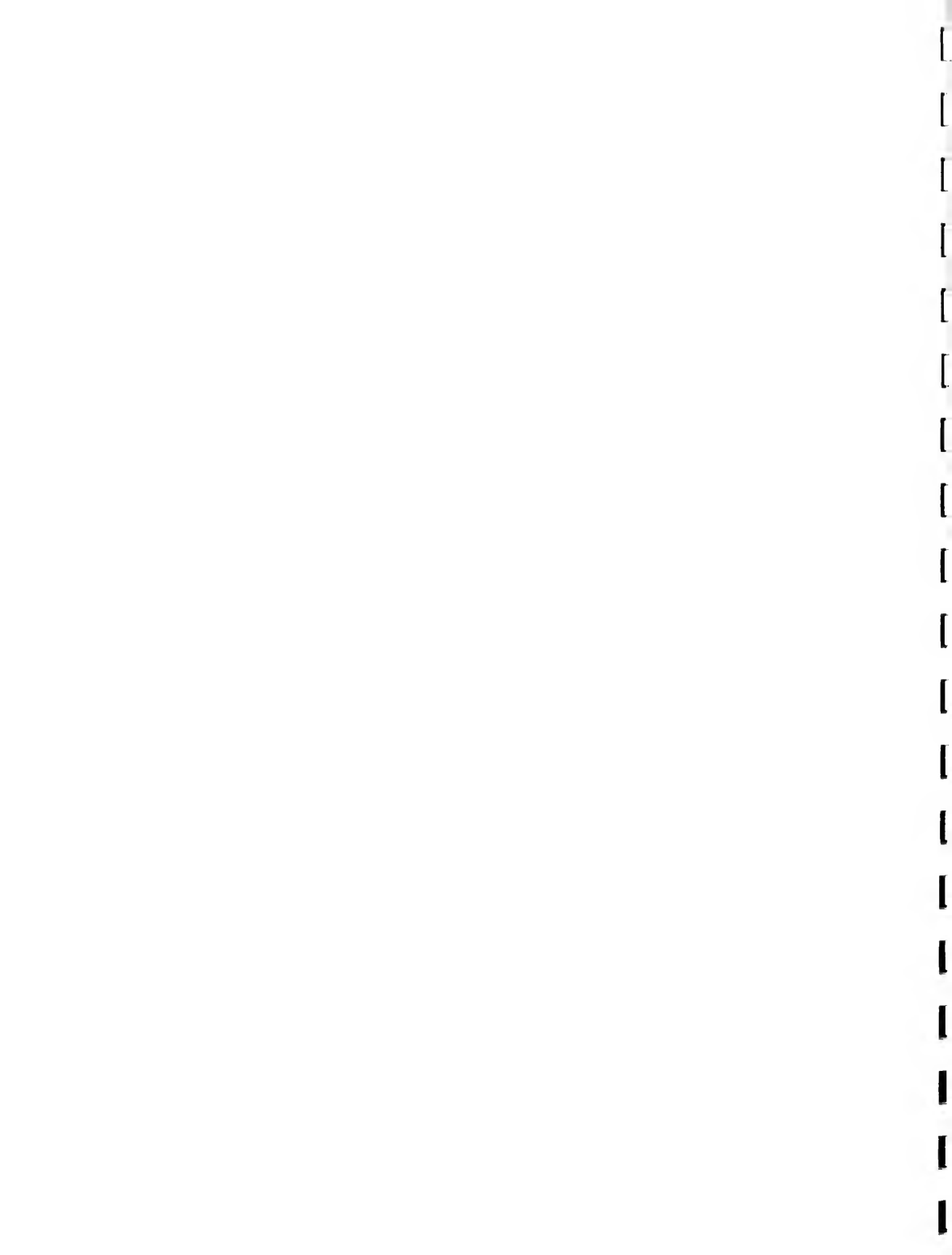
As indicated under Section 3, above, a guiding principle to survival in a growing community is to have growth pay its own way to the maximum degree possible. This implies that local governments should adopt fees and charges for services which reflect their true cost and that new developments should conform to community construction standards for streets, utilities, park land, and drainage. This cost is passed on to the home buyer. New growth should occur in those areas where it will not incur unnecessary additional community costs, such as new trunklines for water or sewer, new streets at public cost, new parks or schools, school buses, or extended sheriff and police patrol mileage. Such development decisions are reflected in future public operating and maintenance budgets.

4.4.2.2 Technical Assistance

The sponsoring companies and/or federal and state agencies could provide professional technical assistance in the following areas:

- 1) Development of design specifications and costs for public facilities
- 2) Management and operations
- 3) Land use policy formulation and planning
- 4) Expertise for local vocational education programs.

Two examples are given below:



- 1) Provide engineering and technical assistance or the funds to aid local agencies in design, costing and cost recovery structure of needed facilities. It is presumed here that the size and speed of population growth could strain the local capacities to respond while continuing to deal with their normal workload. Technical input from the energy companies and/or their consultants might be used in this situation.

Advantages: Using in-house or consultant resources is a relatively low cost way to help anticipate and plan for potential growth problems. Helping resolve problems will avoid potential crisis situations in facility/service areas. Timing of system planning can be significantly improved.

Disadvantages: The companies or agencies could be accused of interfering in an area of community responsibility. If problems do occur, those providing the assistance could be blamed for overlooking them.

- 2) Provide technical support to planners and local officials. This is aimed at aiding local administrators in dealing with growth issues much greater than what they have previously had to address by helping them develop or revise policies, regulations, and pertinent guidelines appropriate to the situation.

Advantages: Better information and planning techniques can do much to help identify and address impacts. Some potential facility/service problems might be avoided.

Disadvantages: There is the potential for accusations that the energy companies are trying to influence the impact assessment process and are trying to minimize need for additional facilities and services.

4.4.2.3 Training and Recruitment

Assistance in this area would include the following types of actions:

- 1) Institute or support recruitment programs for local government personnel
- 2) Institute or support vocational education training programs

4.4.2.4 Information Programs

The potential actions here focus on the coordination or support of programs to disseminate information about local facilities and services, the economy, and related topics.

4.5 Education

4.5.1 General Measures

Schools need capital. The states' funding programs are responsive to operation and maintenance costs. However, expanded funding or new facilities to accommodate an influx of students is frequently difficult for school districts. Even when the tax base exists, residents are often hesitant to vote for bond issues to pay for new facilities needed to accommodate population growth. Where taxes have to be raised, it may be very difficult to develop a timely response to rapid growth. The ups and downs of the resource development industry make local school boards and voters extremely cautious about committing to new debt because of its long-term implications. Sheridan County voters have recently defeated a new bond proposal.

In the case of the Decker project, the peak need for classrooms and support facilities will occur in the 1990s. A ten-year period is almost long enough to build facilities. It is too long for temporary



classrooms. A possible solution is a building that can be converted to other public uses when it is no longer needed for classrooms. A lease arrangement for a building(s) with a private investment group that can be converted to private use is another solution.

Split sessions or year-round classes for the decade of the 1990s are other alternatives. The school district in Grand Junction, Colorado, recently decided in favor of a twelve-month school calendar to cope with oil shale growth. It was estimated that the system's physical capacity will be increased by one-third through this measure.

The school enrollment attributed to the mine projects is relatively small when spread over all grades and the entire system. But the problem of peaking occurs with the "No Action" baseline, too. Thus, the answer to a significantly increased enrollment for only a decade needs to be answered regardless of whether the mining projects go forward.

4.5.2 Specific Measures -- School Facilities

The principal problem over the long term for local schools is developing/obtaining adequate facilities and equipment. Examples of actions that should be considered by the participating mining companies include:

- 1) Provide land for school expansions.
Advantages: Fills an immediate need. No long-term commitment is required.
Disadvantages: Land costs could be very high.
- 2) Donate temporary classroom units, or purchase and lease them to school districts. Meeting peak-temporary needs is always a problem because of the short-term nature of the need and the problem of what to do with the units after peak. Post-peak utilization of such units as homes, warehouses, and other uses should be investigated.
Advantages: Facilities are provided on a timely basis. School districts are relieved of an expense for a facility which is useful for only a short time.
Disadvantages: Cash outlay by the company(s) would be necessary. Permanent ownership of temporary units could occur.
- 3) Purchase additional school buses.
Advantages: The school districts would save money. Students could more easily be bused to schools which have excess capacity.
Disadvantages: Cash outlay by company(s) required.
- 4) Provide housing for teachers. Because of housing costs, many teachers may be reluctant to locate in the study area.
Advantages: would aid in teacher recruitment. Teacher stability would be encouraged.
Disadvantages: The cost could be high. Fosters school districts' dependency on mining companies for meeting teacher housing needs.
- 5) Cooperate with and perhaps underwrite vocational programs. Encourage vocational programs in areas of skill required during plant construction and operation.
Advantages: Local hiring is encouraged. Increases the local skill base.
Disadvantages: Training of people for occupations which may not be viable in the area over the long term.



4.6 Health Care Services

The potential impact of the Decker area mines on hospitals and health care services is uncertain due to changes under way in the industry. However, two actions are particularly appropriate for consideration at present:

- 1) The mining companies should monitor the age and sex characteristics of their labor forces and make this information available to local health resource planners. The mine operators should also be involved in improving traffic safety through road improvements and traffic flow management.
- 2) Institute or support recruitment programs for doctors, dentists, and other health professionals. Small communities in the region generally have problems recruiting medical personnel. This program would be aimed at supporting activities which address that problem.
Advantages: Requires a short-term financial commitment and provides a long-term service return. Good medical services are an important concern to all individuals, and the presence of such services should help attract workers.
Disadvantages: There is no way to guarantee physicians' length of service.

4.7 Recreation

A wide variety of alternative mitigation measures should be considered under the indoor/outdoor recreation category. The examples listed below are primarily those that the mining companies would implement.

- 1) Provide indoor and outdoor recreation facilities in communities where workers locate.
Advantages: Provides an outlet for workers by giving them something to do which does not have negative consequences. Contributes to workers' physical well-being.
Disadvantages: Requires additional expense.
- 2) Encourage mandatory park land dedication in new subdivisions.
Advantages: Provides places for children and families to play. The visual attractiveness of the area is enhanced. Makes the community a more desirable place for workers to live.
Disadvantages: A community may become "land rich and facility poor" if park department budgets cannot cover development and maintenance of new acreage. Energy companies may be requested to fund park development, as well as the land.
- 3) Participate in "adopt-a-park" or other park promotion activities.
Advantages: Good publicity is provided within the community. Facilitates development of needed park facilities.
Disadvantages: Companies may be asked to contribute funds every year.
- 4) Identify outdoor recreation activities and areas for workers.
Advantages: Workers will be directed to areas where they can recreate without conflicting with area residents.
Disadvantages: None.



BIBLIOGRAPHY

Murdock, Steve H. and F. Larry Leistritz

1979 Energy Development in the Western United States. New York: Praeger Publishers.

Metz, William C.

1982 "American Energy & Mineral Industry Involvement in Housing." Paper prepared for the U.S. Department of Energy, Brookhaven National Laboratory, Upton, N.Y. August.

1980 "Industry Involvement in Worker Transportation," Transportation Quarterly.

